

Claims

5        1. Injection moulding device (1) comprising a mould body (2,5) having a cavity (4), an elongated nozzle (3) seated in the cavity (4), a valve pin (11) coaxially in a channel of the nozzle and actuating means (15) connected to the valve pin for axially displacing the valve pin in the nozzle, the valve pin exiting the channel via a bore at the upper end (12) of the nozzle and being guided by a bush (13) in said bore, characterised in that cooling means (14,18) are associated with said bush (13).

10      2. Injection moulding device (1) according to claim 1, wherein the bush (13) projects above a surface of the mould body (2), the cooling means comprising a cooling plate (14), spaced away from the mould body, and associated with the upper end of the bush (13).

15      3. Injection moulding device according to claim 2, wherein the cooling plate (14) is supported on the mould body via a refractive spacer member (52).

20      4. Injection moulding device (1) according to any of the preceding claims, the bush being seated in a cavity (21) in the mould body (2) at a distance from the sidewalls of the cavity (21), the bush having a lower shoulder (24), a clamping ring (22) being screwed into the cavity (21) and engages with the shoulder (22) on the bush, an inner wall (25) of the clamping ring (22) being spaced away from the sidewall of the bush (13).

25      5. Injection moulding device (1) according to any of the preceding claims, wherein the actuator means (15) comprises a cylinder (15) that is placed above the valve pin (11), coaxial therewith, a cylinder housing (30) being detachably coupled to a cooling plate (14) having a cooling channel (18) located below the cylinder (15) and having a bore (47) accommodating the upper end of the bush (13).

30      6. Manifold unit (2) for use in an injection moulding device according to any of the preceding claims, comprising a central channel, a branching channel (21) and at

least one nozzle (3) connected to the branching channel, the cooling plate (14) being supported on the manifold body (2) via a refractive spacer member (52), a cylinder being placed above the valve pin (11), coaxial therewith, the cylinder housing (30) being coupled to the cooling plate, the cooling plate (14) comprising a cooling channel (18) located below the cylinder (15) and having a bore (47) accommodating the upper end of the bush (13).